

Dear SPLC MIP Award Selection Committee,

We would like to nominate the following paper for an SPLC Most Influential Paper Award:

David Benavides, Pablo Trinidad Martín-Arroyo, Antonio Ruiz Cortés:
Automated Reasoning on Feature Models. Proceedings of CAiSE 2005:
491-503. LNCS 3520, Springer, 2005.

This can be considered the first paper that brings together attribute grammars, constraint solvers, feature models, and optimizations of SPL configurations into a coherent and elegant framework. Note that this paper has opened the door to what it has become a trending topic in the community in recent years, namely the automated analysis of feature models. So, this paper can be seen to have presaged current work by almost a decade. Indeed, it can be considered a visionary paper in the area of SPL.

The influence of this paper has been proved by the extensive application of its results in different areas of SPL engineering, specifically in variability modelling. Some examples of how the innovative idea of analyzing feature models with attributes and logics has contributed to the progress of SPL research in the last decade are: (i) it helped to explain feature model analysis for feature model quality assurance, error checking and repairing (e.g., White et al. SPLC 2008 awarded best paper); (ii) in feature model analysis it contributed to selecting a set of products for testing coverage among all the potential combinations (e.g., Segura et al. IST journal 2011); (iii) it facilitated the reverse engineering of feature models to obtain a feature model from product descriptions (Czarnecki et al. ICSE 2011); iv) it promoted software product line evolution approaches to ensure consistency (e.g., White et al. JSS journal 2014); (v) it impacted on work on product configuration, selection and optimization of products (e.g., Hierons et al. TOSEM journal 2016).

This approach has also encouraged researchers to develop new SPL tools with the goal of improving the validity checking of feature models, using the results of this paper. Several third party tools include the results of this paper (e.g., FAMILIAR, SPLAR), and FaMa was developed by its authors. These tools are widely used by the SPL community both in academia and industry.

In addition, it is possible to quantify the impact and influence of this paper on research in terms of citations. This is one of the most cited papers in the history of CAiSE. In fact, the CAiSE conference recognized the influence of this paper by including it in the 25th anniversary of CAiSE book.

We support the nomination in the strongest possible way – it is not possible to imagine SPL optimizations as a “hot” topic without the contribution of this paper.

Lidia Fuentes (Universidad de Málaga, Spain)

Klaus Pohl (Universität Duisburg-Essen, Germany)

Douglas C. Schmidt (Vanderbilt University, USA)

Roberto E. López-Herrejón (Université du Québec à Montréal, Canada)